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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/099,988	03/19/2002	Atsuo Hattori	T2171.0201/P201	5657
24998	7590	09/10/2004	EXAMINER	
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP			NGUYEN, KHIEM D	
2101 L STREET NW			ART UNIT	
WASHINGTON, DC 20037-1526			PAPER NUMBER	
			2823	

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/099,988

Applicant(s)

HATTORI ET AL.

Examiner

Khiem D Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 3-6 and 11-16 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 2, 18 and 19 is/are allowed.
- 6) ☒ Claim(s) 7-10 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 6th, 2004 has been entered. A new rejection is made as set forth in this Office Action. Claims (1, 2, 7-10, and 17-19) are pending in the application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 7, 8 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Nobushi et al. (JP 8-15318).

In re claims 7 and 8, **Nobushi** discloses a method of manufacturing a probe unit, the method comprising: forming a plurality of parallel, elongated leads 3 on the contiguous flat surfaces of a substrate 2 and a sacrificial layer 3', the leads extending over both portions of the substrate and portions of the sacrificial layer wherein forming the sacrificial layer in the substrate before the depositing step (Abstract and FIGS. 7-9); etching the sacrificial layer so that the leads 3 include a supported portion located on the

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substrate 2 and an unsupported portion extending over at least one edge of the substrate (FIG. 9).

Nobushi does not explicitly disclose that the sacrificial layer having different etching characteristics than those of the substrate. However, Nobushi discloses that the sacrificial layer consists of copper and the substrate is made of a material different than the sacrificial layer (pages 2-3, paragraphs [0016]-[0020]). It is well-known that different metals or materials having different etching rates. Additionally, note that materials having higher electron numbers also having a higher etching rates (See Attachments).

In re claim 17, Nobushi discloses a method of manufacturing a probe unit having leads supported on a top surface of a substrate 2, the method comprising: forming a sacrificial layer 3' having a top surface which is contiguous to a top surface of the substrate 2 (FIG. 8), the sacrificial layer 3' being made of a material which is different than the material of the substrate 2 (pages 2-3, paragraphs [0016]-[0020]); forming a number of parallel leads 3 on the top surface of the substrate 2 and an area of the sacrificial layer 3'; and removing the sacrificial layer (FIGS. 9A-B).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nobushi et al. (JP 8-15318) in view of Shimada et al. (U.S. Patent 6,335,522).

In re claims 9 and 10, **Nobushi** does not explicitly disclose forming a depression in the substrate and forming the sacrificial layer in the depression and removing a portion of the substrate located below the depression as recited in present claims 9-10.

Shimada ('522) discloses forming a depression (**FIG. 6C: 25**) in the substrate (**FIG. 6A-E: 1**) (col. 8, lines 11-39 and **FIGS. 3A-B**) and forming the sacrificial layer (**FIG. 6B: 35**) (col. 10, lines 13-44 and **FIGS. 6B-C**) in the depression and removing a portion of the substrate located below the depression (**FIGS. 7D-E**). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Nobushi and Shimada to enable a depression in the substrate of Nobushi to be formed and furthermore to obtain a probed, which is simple and provides a good reproducibility and a high processing precision (col. 2, lines 59-64, Shimada).

Allowable Subject Matter

Claims 1-2 and 18-19 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khiem D Nguyen whose telephone number is (571) 272-1865. The examiner can normally be reached on Monday-Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (571) 272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

K.N.



**W. DAVID COLEMAN
PRIMARY EXAMINER**